

From: [YOUNG Cyril](#)
To: [Chip Humphrey/R10/USEPA/US@EPA](#); [ANDERSON Jim M](#); [Kristine Koch/R10/USEPA/US@EPA](#)
Cc: [LIVERMAN Alex](#); [YOUNG Cyril](#); [PETERSON Jenn L](#); [MCCLINCY Matt](#); [POULSEN Mike](#); [GAINER Tom](#)
Subject: RE: DEQ Comments on LWG FS TMs
Date: 04/18/2011 10:02 AM

Jim, Kristine and Chip,

Lynne Perry provided some late edits on the DSL comments concerning the FS costing. There is little change to the meaning, just a bit more clarity for the upcoming rule process. I am including the edited version below:

DSL will soon be writing rules that specifically address use of State-owned submerged and submersible lands for implementation of removal and remedial actions and certain restoration projects. The rules are expected to describe the type of authorization needed, the process for and cost of securing that authorization, and other requirements related to long-term maintenance and monitoring. The rules will most likely include requirements for conservation easements on the ENMR lands that would include or facilitate restrictions needed to facilitate the remedy. Where other short- or long-term access is needed to facilitate work or permanent structures, other authorizations would be required. Depending on the nature of the project, these may include an access agreement, lease, easement, sale of the property or a combination thereof. The costs proposed for such authorizations would be determined by DSL, as provided in the new rules. DSL's existing rules value a conservation easement at one-third of the adjacent upland value. In earlier transactions for remedial work, DSL has established a lease rate based on non-marine use rates in effect at the time as applied under OAR 141-082 and a purchase price based on capitalizing that lease rate over ten years. New rules developed and adopted by the State Land Board may, however, differ from those in place now and would supersede existing rules and past practice.

From: ANDERSON Jim M [mailto:ANDERSON.Jim@deq.state.or.us]
Sent: Friday, April 15, 2011 1:51 PM
To: Koch.Kristine@epamail.epa.gov; Humphrey.Chip@epamail.epa.gov
Cc: YOUNG Cyril; MCCLINCY Matt; GAINER Tom; POULSEN Mike; PETERSON Jenn L; LIVERMAN Alex
Subject: DEQ Comments on LWG FS TMs

Christine & Chip,

Here are DEQ's comments on the LWG's 5 FS Tools Tech Memos (TMs).

DRAFT IDENTIFICATION OF "COCs" AND CONTAMINANT MOBILITY EVALUATION CRITERIA FOR THE DRAFT FS

1) Drinking water criteria (page 1, 1st paragraph)- The LWG has always said that analytical results from bulk sediment samples are sufficient to evaluate potential toxicity in sediment pore water (TZW) outside of groundwater plume areas (TZW samples were collected in

groundwater plume areas only). The LWG said there's no need to use equilibrium partitioning or any other method to estimate TZW concentrations where we had sediment samples only (i.e., no TZW samples). What they were relying on is that sediment SQVs, sediment PRGs, etc are adequate to evaluate benthic risk..., the bulk sediment samples somehow account for the risk from TZW contamination. That LWG argument fails for drinking water. In other words, bulk sediment samples alone (i.e., no TZW samples) are not adequate to evaluate whether that sediment contamination is a source of TZW contamination that could exceed drinking water criteria.

2) Objectives for water screening (page 1, 1st bullet)- 1st, I'm not sure if the 1st bullet is a direct quote or a paraphrase of what EPA previously said. 2nd, it's acceptable to "potentially include" a screen of the maximum detected concentrations of near-bottom surface-water samples against RSLs & MCLGs/MCLs in the FS contaminant mobility evaluations of remedial alternatives. I'm unclear what the LWG wants to do with the screen. If they want to rely on near-bottom surface-water samples to conclude certain COCs are not mobile, we want to be sure those near-bottom surface-water samples were collected to best represent discharge from the sediment contamination to the surface water. I think the LWG can proceed with caution, but should not over-reach or not inappropriately apply conclusions from their proposed screening.

3) All depth-integrated surface water samples (page 22nd full paragraph)- The LWG proposes to use MCLs in screening all depth-integrated surface-water samples for their FS approach. Why not say "non-zero MCLGs, and in their absence, SDWA MCLs and tap water RSLs" as the LWG proposed for their RI human health approach? This same comment applies to the LWG's proposed FS TZW screening approach on page 3.

4) TBT (Table 5, page 7)- Should TBT be included as an indicator chemical?

5) Drinking water criteria (page 7)- Again, the LWG proposes to use MCLs as numeric criteria for indicator chemicals for use in the capping/CDF long-term effectiveness evaluation & the dredging water-quality impact evaluation. Why not say "non-zero MCLGs, and in their absence, SDWA MCLs and tap water RSLs"?

DRAFT MITIGATION DETERMINATION APPROACH FOR USE IN THE FS

I quickly reviewed our partners' comments you sent me 4/6. We only have the 1 following additional comment on this TM.

1) Engineered & active capping, page 3, 1st bullet- Engineered & active capping should be added to the list in the 1st bullet.

DREDGING WATER QUALITY EVALUATIONS

1) Engineering controls (page 1, 1st paragraph)- The LWG's TM describes tools to be used to evaluate whether physical turbidity controls (silt curtains, rigid containment, cofferdams, etc) should be included as part of dredging technologies. A more detailed evaluation for the need for physical controls should also be conducted on a site-specific basis during remedial design.

2) 2D vertically-averaged transport model (general comment)- 2D vertically-integrated models are probably the best choice for the FS given the cost & data needs of the alternative..., 3D modeling. However, transport model are inherently difficult & the result are subject to wide variability & interpretation. Depth averaging is a particular concern because...especially in big rivers like the Willamette..., flow velocities vary significantly at different depths & with seasonally changing temperature & salinity. Dredging with a clamshell bucket is likely to have the majority of sediment loss at the riverbed & lessening amounts of loss up through the water column with each journey of the bucket. Accounting for where the greatest amount of loss occurs..., & how various flow velocities & tidal influence affect loss..., is important in determining how much sediment will be transported & where.

TREATMENT TECHNOLOGY EVALUATION TOOLS

1) Treatment goals (general comment)- Assuming treated sediment must meet unrestricted-use criteria may be overly conservative for potential beneficial uses. Ideally, treatment would achieve unrestricted-use levels, but unrestricted use should not be only treatment goal. This should not be a case of "make or break". For instance, contaminated sediment could be treated to a level where the sediment could provide a beneficial use, e.g., foundation of an upland cap. Unfortunately, since such potential beneficial uses have not been identified, we have to make an assumption. LWG suggests that this can be reconsidered during remedial design, but if ex-situ treatment was "eliminated" or not selected in the FS, how & why would someone select another remedy not evaluated in the harborwide FS (i.e., what is the basis for selecting ex-situ treatment in the future)? Why evaluate & select dredged-sediment treatment/disposal options now if they're going to be revisited & re-evaluated "during remedial design?" Partly so that dredging can be compared with capping, etc.....

DRAFT FS COSTING APPROACH

1) DSL land purchase (page 1)- DSL will soon be writing rules to aid in the process of authorizing & placing a value on remediation projects on State-owned submerged & submersible lands. The rules will most likely include requirements for conservation easements on the EMNR lands & would be dependent upon restrictive measures placed on that site to assure its recovery & would restrict uses by the public or for commerce. Where permanent sediment caps or a CDF may be placed, authorizations would be required & may

include leasing, easement, or purchase of the property or a combination thereof. The costs proposed for such authorizations would be determined by DSL & may range from a value of a conservation easement being one-third of the adjacent upland value, to a lease-value based on non-marine use rates in effect at the time as applied under OAR 141-082. Any purchase values would be based on capitalizing that lease rate over ten years.

2) Armored caps (Figure 1)- Figure 1 shows various types of armored (only) caps. The LWG should recognize that armored caps may not be appropriate or acceptable given certain site-specific habitat issues. This applies to cap costing assumptions on page 5.

3) Vertical overplacement (Figures 1 and 2)- Figures 1 & 2 show assumptions for vertical overplacement of cap materials & dredging over-depth, respectively. Assumptions for horizontal overplacement of cap materials & over-dredging should also be discussed.

4) Long-term harbor-wide MNR monitoring (page 4)- Long-term harbor-wide (i.e., harbor-wide AOPC) MNR monitoring is important, & LWG should spend more time/effort evaluating their proposal. Also, will 5-year reviews of the final remedies be separate from this MNR monitoring?

5) Engineering controls for dredging (page 6)- The LWG's TM states "Partial height silt curtains will be used in areas that are predicted to potentially have water quality issues." The LWG should be aware & should consider the possible necessity of engineering controls more robust than partial-height silt curtains. The LWG will use methods described in their "Dredging Water Quality Evaluations" TM to help determine what engineering controls may be necessary for dredging. However, the FS needs to consider the cost of rigid containment as a possible work/cost element of dredging in at least some areas.

6) In-situ treatment (page 7)- In-situ treatment is presented as "placing sand mixed with carbon as a thin layer over impacted sediment". As discussed in our 4/12/11 meeting, is there also an option to mix carbon directly into the existing sediment? Would these costs be significantly different than what the LWG assumes as in-situ treatment?

7) CDF costs (page 8)- Please clarify "The lower end of the Terminal 4 CDF is assumed to be the lower possible end of in-water CDF disposal". The "lower end" of what..., cost?

8) See comment above under "Treatment Technology Evaluation Tools" TM- applicable here too.

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